How can we increase provider adherence to fever case management guidelines?

A learning brief from Breakthrough ACTION-Nigeria

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Breakthrough ACTION FOR SOCIAL & BEHAVIOR CHANGE

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Acronyms

ANC	Antenatal care
CHARP	Community Health Action Resource Plan
CPD	Community–provider dialogues
FCT	Federal Capital Territory
HCD	Human-centered design
LGA	Local Government Area
RMNCH	Reproductive, maternal, newborn, and child health

Acknowledgements

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Background

Appropriate diagnosis and treatment of fevers are essential for ensuring effective care. The World Health Organization and the Nigeria Malaria Elimination Program have recommended that all children with fever be tested for malaria before starting treatment. Malaria medication should only be given when a test confirms that a child has malaria. However, in 2016, only 61% of providers reported strict adherence to guidelines despite high levels of awareness (98%) and the widespread availability of malaria tests (82% of facilities).[1] Studies showed that providers with negative perceptions of malaria rapid diagnostic tests (RDTs) were less likely to adhere.[2] Such evidence made it increasingly clear that although necessary inputs such as training and commodities to roll out the guidelines had been made, they were not enough to change provider behavior at the desired scale. A social and behavioral lens was needed to amplify and sustain the impact of these investments.

Solution: Through formative assessments that included a literature review, behavioral science and human-centered design strategies, and implementation learnings from previous work with providers in Nigeria, Breakthrough ACTION-Nigeria developed several approaches based on the following insights:

1. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4991116/pdf/12889_2016_Article_3495.pdf
2. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0223869

Key insights that informed the design of our approaches

Although providers are well-meaning and attempt to make evidence-based decisions, widespread misconceptions about the reliability of RDTs existed. Many providers believed that malaria RDTs were unreliable because the number of negative test results did not align with providers' perception that malaria was highly prevalent and they had concerns about improper storage and transport of RDTs as they made their way through the supply chain. In addition, providers worried that clients would reject their diagnoses and treatment because they usually expected to have malaria.

Trained and equipped providers often failed to adhere to guidelines due to cognitive bandwidth. In addition, in trying to see as many clients as possible, providers might not request or conduct malaria tests. All clients, especially those with negative malaria test results, needed comprehensive assessments to identify alternative causes for their illness. Such assessments were potentially time-consuming, and many providers lacked the skills to conduct these assessments.

Factors above the level of the providers contributed to their adherence behaviors. For example, health system supervisors often held misconceptions similar to those of providers about malaria RDTs. While true initially, these perceptions were no longer accurate in light of recent research and advancements in RDT technologies. Moreover, providers received little to no feedback on their facilities' adherence rates and were unaware that adherence was a priority for the Ministry of Health.

Approach 1:
Behavioral Science Package

Overview

Using a combination of behavioral science insights and rapid human-centered design prototyping and user testing, Breakthrough ACTION developed and rolled out a suite of prototypes designed to (a) increase provider trust of malaria RDTs, (b) streamline facility procedures to reduce the cognitive burden for providers, (c) increase transparency and feedback, and (d) manage clients' expectations.

Providers and stakeholders from state and federal agencies as well as service delivery partners reviewed the findings from the formative research and then brainstormed and prioritized ideas for potential solutions. Mock-ups or prototypes of prioritized solutions were then brought to facilities for further input and rapid testing with providers and clients. Revisions were made, prototypes were piloted for several months, and data was collected to track the impact on fever case management outcomes.

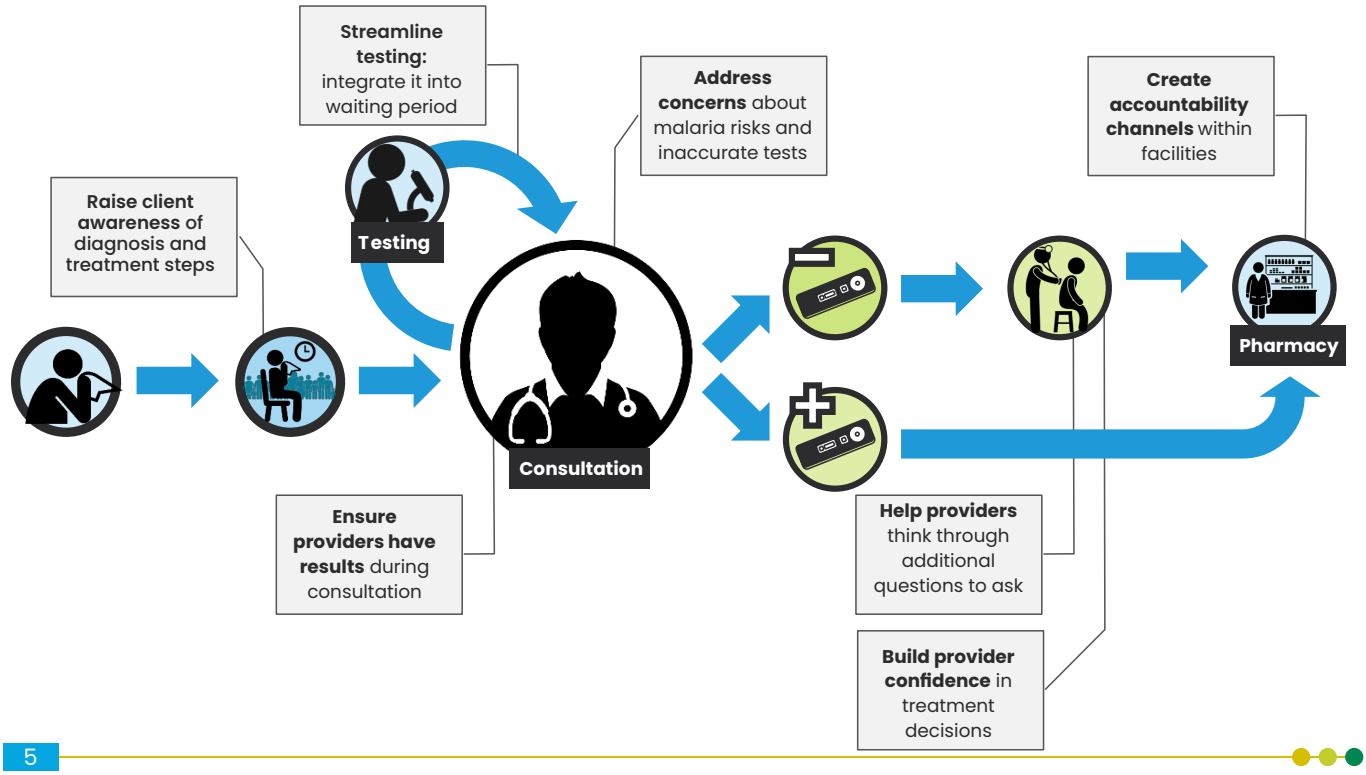
Recognizing that fever case management services are provided by facilities at all levels, prototypes were tested in a broad variety of facilities, including primary and secondary facilities and facilities in different regions of the country. In addition to determining whether the prototypes worked, the pilot tests were aimed at identifying what factors impeded or facilitated their effectiveness and which prototypes were best suited to specific types of facilities. The final set of interventions prioritized approaches that required few resources and low technical capacity, which would facilitate deploying them at scale.

1. To start, all providers at each facility participated in a facilitated discussion called the **Provider Dialogue Framework** to correct misconceptions about the reliability of RDTs and to establish shared norms and expectations around adherence. These discussions were highly interactive sessions in which providers were able to vehemently debate truths and myths related to malaria testing and adherence.

2. Next, key indicators related to adherence were tracked and prominently displayed within the facility using a **performance tracking poster**, and reviewed as part of periodic supportive supervision visits. This prototype included comparing multiple data sources within the facility, facilitating improved transparency and accuracy.

3. In larger facilities where clients interact with multiple providers throughout a visit, pre-**consultation testing** was introduced at the intake or triage stage, ensuring that all clients presenting with a history of fever were tested for malaria before they saw a prescribing provider. This step was designed to reduce providers' cognitive burden; they did not have to decide whether or not to perform a malaria test, and they had results available in time to guide treatment decisions.

4. Lastly, providers at every stage of client interaction during a facility visit received training and resources to educate clients on fever care expectations. Orientations were conducted on the **whole-site counseling approach** and other prototypes, ensuring all facility providers, from intake personnel to pharmacy staff, were well-informed and unified in their approach.



Results

Feasibility test: During a three-month feasibility pilot, adherence improved in all 11 health facilities where the prototypes were tested. Increases in secondary health facilities were more dramatic, from 42% to 100% compared with 92% to 99% in primary health facilities, suggesting that larger facilities could benefit the most from solutions that established norms and streamlined processes.

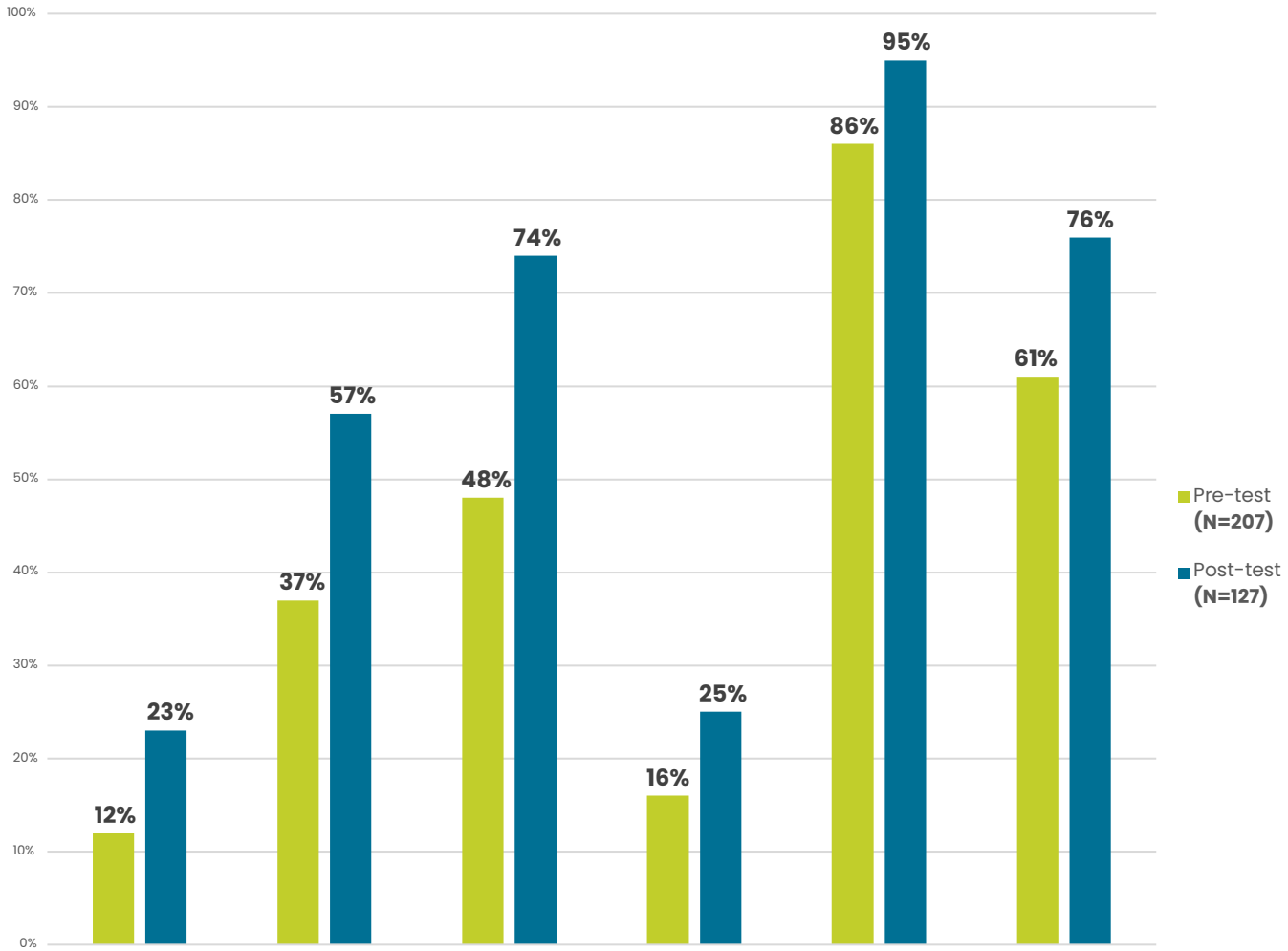
Scale-up: Following positive results from the pilot, Breakthrough ACTION-Nigeria supported service delivery partners to roll out these strategies to over 2,000 health facilities. An analysis of service delivery data from 778 facilities with complete health management information system data found that fever testing rates increased from 93.2% in the six months before the implementation to 99.9% in the six months after, and the proportion of clinically diagnosed malaria decreased from 8.2% before implementation to 0.4% after.

These outcomes mean that six months after the introduction of the strategies, nearly every eligible client received a malaria test, and the number of clients receiving antimalarials without a test-confirmed malaria diagnosis decreased from 82 per 1,000 clients to 4 per 1,000 clients.

While the baseline testing rates appear high, it is important to keep in mind that suspected malaria is the leading cause of outpatient visits in Nigeria. Thus, each percentage point represents thousands of patients who were not offered a test as required by national guidelines.

Provider knowledge and attitudes toward RDTs, before and after the pilot

The percentage of providers responding correctly to knowledge and attitudinal questions improved before and after the pilot



Approach 2:
Changing Norms in the Broader Medical Community

Overview

In addition to the development and roll-out of the behavioral science package among United States Agency for International Development (USAID)-supported public health facilities, Breakthrough ACTION-Nigeria also aimed to change norms within the broader medical community in Nigeria. This work was necessary because the limited geographical coverage of USAID service delivery partners during the early years of the project created a gap in direct support to facilities. Additionally, some facilities supported by Breakthrough ACTION-Nigeria could not use the behavioral science prototypes because they were scaled to only some states by service delivery partners.

Importantly, Breakthrough ACTION-Nigeria recognized that sustained change would not be possible without reaching a critical mass of facilities and providers. Data from formative research and program monitoring revealed that providers in Nigeria felt that their colleagues did not trust negative RDT results, and studies in multiple countries have shown that perceptions of peer behaviors (norms) are strongly associated with provider adherence.

The Provider Dialogue Framework was adapted to make it even more interactive and gamified, and it was deployed as a core element in multiple approaches tailored to different types of facilities and opinion leaders. These approaches included the following:

- **"Cluster meetings"** brought officers-in-charge (OICs) from primary health care centers together every quarter, with rotating themes such as fever case management, respectful maternity care, and malaria in pregnancy. Other elements of cluster meetings included a review of facility data to assess progress, exchanges of challenges and solutions, and training on a fever evaluation tool to manage nonmalaria fevers. Facility management best practices were also discussed. OICs received copies of discussion materials and were responsible for facilitating similar discussions within their facilities, a process called "step down."

> [After the cluster meeting] I was able to do the step-down training for my staff. Even when I am not there, my staff are able to do exactly what they are supposed to do. We are able to monitor ourselves, and we have had 100% adherence over the past three months.
>
> **Mrs. Amos,** Officer-in-charge, Primary Health Care Center Ndom Utim, Akwa Ibom State

- **In secondary and tertiary facilities** such as hospitals where staff numbers are large and fluctuate, Breakthrough ACTION leveraged the practice called **clinical meetings**. During these meetings, hospital administrators, clinicians, and other staff (such as laboratory technicians and pharmacists) discuss patient care and hospital quality assurance measures. Hospitals were targeted for many reasons, including their large volumes of clients and high number of physicians. Data has shown that physicians are less likely to adhere to RDT results; many also had rotations at primary health centers and often had the final say on prescribing decisions there.

- **PBC workshops,** a variation on clinical meetings, were conducted with **state and local government managers and directors, as well as training institutions.** As observed during formative research, health system supervisors' understanding of RDTs lagged behind current research, contributing to the spread of misconceptions among providers. PBC workshops allowed Breakthrough ACTION staff to escalate issues or support needs from facilities to the higher levels of the health system.

- The project leveraged the influence of **professional associations** of nursing, midwifery, laboratory technicians, and physicians through engaging discussions and presentations about fever case management and respectful maternity care at their meetings. The objectives were to reach a large number of providers and opinion leaders and to update the continuing medical education curricula, which all providers were required to complete every year or two.

- Over time, cluster and clinical meetings morphed into **facility mentorship.** Following the effectiveness of cluster meetings, Breakthrough ACTION-Nigeria pursued greater reach of providers by bringing trusted mentors to primary health facilities to conduct engaging discussions and provide tailored support to all staff. This process ensured that all staff within a facility had a shared understanding of the myths and facts related to RDTs, shared expectations about their roles, built skills, and had a mechanism for monitoring and feedback. The use of peer mentors—who were often fellow providers or OICs from high-performing facilities, nursing school tutors, or former classmates—allowed providers to ask questions in a relaxed and safe atmosphere.

Results

Breakthrough ACTION-Nigeria's presentations at professional association meetings reached over 1,000 health professionals annually. Modules on fever case management and interpersonal counseling and communication were incorporated into the continuing medical education curricula of the Association of Public Health Physicians of Nigeria and the Nigeria Medical Association.

Data from 417 facilities participating in cluster meetings indicated a substantial positive shift in provider perceptions and adherence. **From 2018 to 2022, the percentage of fever cases tested with RDTs or microscopy increased from 82% to 94% and the percentage of confirmed malaria cases treated with ACTs also rose from 82% to 99%.** Finally, the percentage of fever cases that were treated presumptively with ACTs decreased from 20% to 0.8% (from 200 per 1,000 to 8 per 1,000). Importantly, average OIC knowledge and attitude scores increased from 44% to 80% (out of 100%) over the same time period.

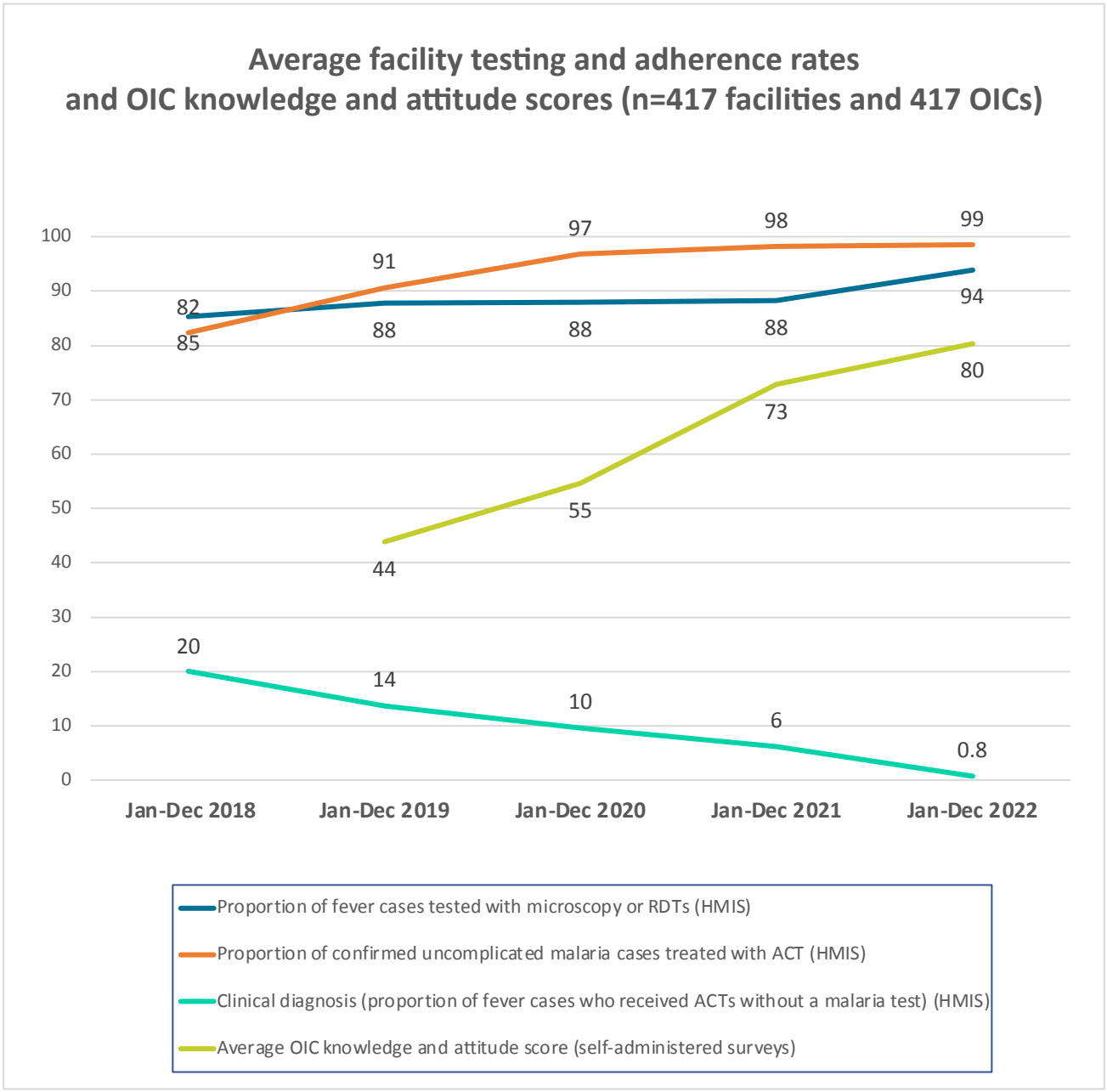
> I attended a very rewarding PBC workshop in FCT [Federal Capital Territory]. The director of pharmacy services saw their state's data, prompting immediate discussions on distribution from their central stores. OICs shared pictures [of malaria commodities] arriving at their facilities the following week, demonstrating how involving decision-makers swiftly bypassed bureaucratic hurdles. Our data-based PBC workshops, often featuring the state's M&E officer presenting their data, truly made things happen.
>
> **Faramade Alalade,** Breakthrough ACTION-Nigeria, Senior Program Officer, Provider Behavior Change

172
trained peer mentors and

117
trained coaches mentored 5,802 providers.

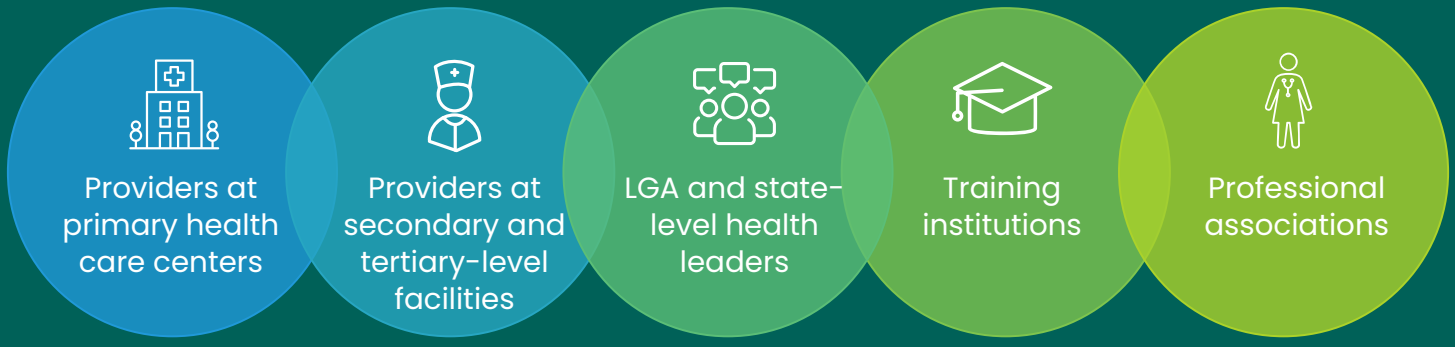
18,701
officers-in-charge from 11 states
and the Federal Capital Territory participated in cluster meetings.

The number of clients who received an ACT without a malaria test decreased from 200 per 1,000 in 2018 to 8 per 1,000 in 2022.



Approaches used to change norms in the broader medical community

Targeted audiences



Lessons Learned from Implementing Approaches to Strengthen Relationships Between Communities and Providers

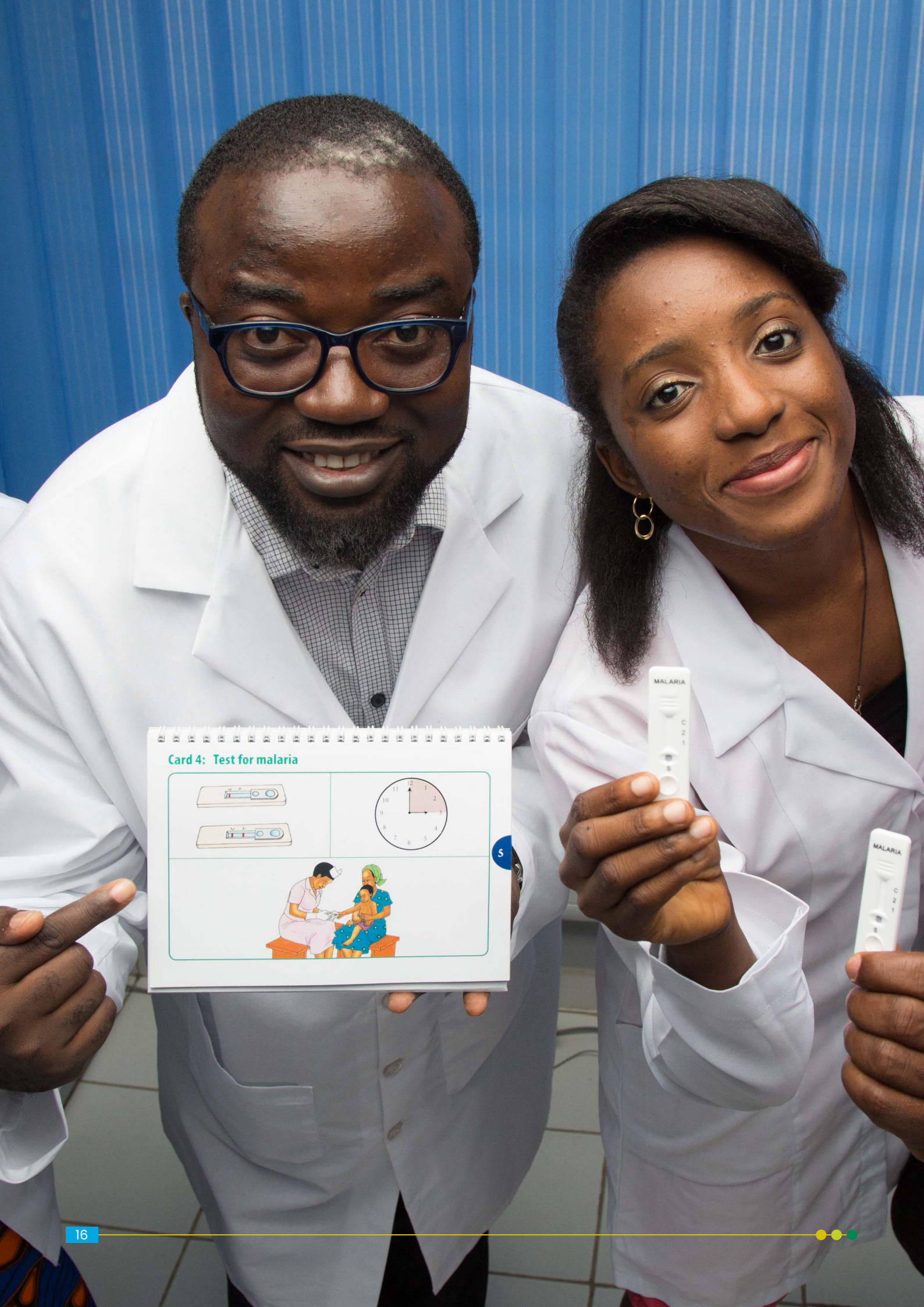
1. **A behavioral lens adds significant value to programs aimed at improving provider adherence to clinical guidelines.** A behavioral lens uncovered the underlying motivations and barriers that influence providers and enabled the creation of approaches tailored to various implementation contexts and audiences. At the same time, the behavioral lens did not ignore, but sought to improve structural, social, and immediate workplace factors.

2. **Including state and local government leaders** is very helpful for addressing structural barriers. The project was able to escalate the challenges providers faced to these critical decision-makers, who were able and willing to provide solutions immediately. In addition to occasionally releasing more funds for facilities, they were also able to provide simple solutions that would have otherwise involved a lot of bureaucracy to obtain, such as providing guidance on reporting methods, extending the contracts of staff scheduled to retire to alleviate human resource shortages, or releasing commodities from the state medical stores. Finally, Breakthrough ACTION-Nigeria made certain that state and local government officials were up-to-date on common myths and misconceptions, ensuring they would be able to help stop their spread.

3. **Collaborations between SBC and service delivery partners can lead to synergy.** Breakthrough ACTION-Nigeria involved providers, service delivery partners, and technical experts in the design of provider behavior interventions. Their insights and expertise on the provider experience helped ensure that the interventions were relevant and had the support of other implementers and stakeholders. Service delivery partners then adopted and helped scale these interventions. Their continuing participation in Breakthrough ACTION-Nigeria activities such as cluster meetings and PBC workshops also resulted in more timely resolution of issues related to commodity supply and equipment maintenance and more timely updates on new guidelines.

4 **Professional associations vary in objectives, membership, and structures, and a one-size-fits-all approach is not appropriate.** For example, some associations may prioritize profit-driven initiatives, others may focus more on educational or teaching-driven goals. It is important to understand the reach and objectives of each professional association of interest and identify shared short- and long-term objectives.

5 **Peer-to-peer approaches are powerful.** Providers are as subject to social norms as anyone else. Breakthrough ACTION-Nigeria has learned that it is important to engage all providers directly whenever possible through methods such as whole-site facility mentorships and minimize steps such as cascade and step-down training. These traditional approaches can dilute the impact of peer-to-peer engagement by introducing variability in delivery and hierarchical power dynamics that may inhibit open dialogue and joint problem-solving.


Card 4: Test for malaria
5
MALARIA
MALARIA

Resources

Adedokun, S.T., & Uthman, O.A. (2019). Women who have not utilized health service for delivery in Nigeria: who are they and where do they live? *BMC Pregnancy Childbirth,* 19, 93. https://doi.org/10.1186/s12884-019-2242-6

Breakthrough ACTION-Nigeria. (2024). *Community provider dialogues operational guide*. Johns Hopkins University and Breakthrough ACTION. https://breakthroughactionandresearch.org/wp-content/uploads/2024/06/Community-Provider-Dialogues-Operational-Guide.pdf

Breakthrough ACTION. (2024). *Strengthening links between providers and communities: Fishbowl operational brief.* Johns Hopkins University and Breakthrough ACTION.

For more information, please see other Breakthrough ACTION-Nigeria provider behavior change resources by scanning the QR Code

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